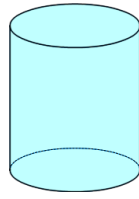


9-2 and 9-4 Surface Area and Volume of Cylinders



~ base
circle

$$B = \pi r^2$$

$$p = C = \pi \cdot d$$

Perimeter of Circle = Circumference

Lateral Area

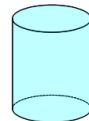
$$LA = p \times h$$

Surface Area

$$SA = LA + 2B$$

$$\text{Volume} = B \times h$$

$r = 4\text{cm}$
 $h = 9\text{cm}$



$$p = 8\pi \approx 25.1\text{cm}$$

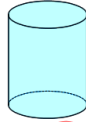
$$B = \pi 4^2 = 16\pi \approx 50.3\text{cm}^2$$

$$LA = 8\pi \cdot 9 = 72\pi \approx 226.2\text{cm}^2$$

$$SA = 72\pi + 2(16\pi) = 104\pi \approx 326.7\text{cm}^2$$

$$V = 16\pi \cdot 9 = 144\pi \approx 452.4\text{cm}^3$$

$r = 3\text{cm}$
 $h = 5\text{cm}$



$$p = 6\pi \approx 18.8\text{ cm}$$

$$B = \pi 3^2 = 9\pi \approx 28.3\text{ cm}^2$$

$$LA = 6\pi \cdot 5 = 30\pi \approx 94.2\text{ cm}^2$$

$$SA = 30\pi + 2(9\pi) = 48\pi \approx 150.8\text{ cm}^2$$

$$V = 9\pi \cdot 5 = 45\pi \approx 141.4\text{ cm}^3$$